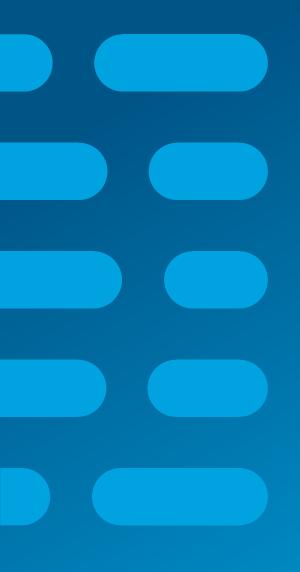


COVID-19 Pandemic and the Impact on SEA Healthcare Market

Version 1 –Current as of 20th April 2020

April 2020



This white paper is <u>our initial thinking</u>, based on available data, on how COVID-19 is impacting the healthcare environment in <u>Southeast Asia</u>

As the Human Data Science company, IQVIA is ready to help reduce the impact of COVID-19 today, while driving healthcare forward.

We used IQVIA's proprietary data and our expert network as the primary basis for this assessment

Context



IQVIA proprietary data (from February, 2020)

National Sales Audit Data, Local Country

- Product: prescription drug (Rx) and consumer health (CH)
- Channel: hospital, clinic and pharmacy
- Sell-in: drug sales data collected from manufacturers and distributors
- Sell-out: drug sales data collected from retail pharmacies / clinics
- Healthcare providers (HCP): includes both public and private sectors



Stakeholder insights

- Interview with key stakeholders, market participants and industry executives in each of the Southeast Asian (SEA) markets
- IQVIA ran an online survey with <u>n=350</u>
 HCP responses across SEA markets



Epidemiology database

- Epidemiological data from publicly available research from WHO, academic institutions, and government agencies
- Data as of April 3rd 2020

Our subsequent white papers will incorporate latest available information, as and when available





Table of Contents

- + Current COVID-19 status in SEA
- + Impact on Products and Healthcare
 - 1. Fluctuating demand for health products
 - 2. Decline of healthcare services utilization
 - 3. Unpredictability in the supply chain
- + Impact on life sciences investments
 - 4. Falling private investment
 - 5. Reactive equity market
- + 6. Changing ways-of-working
- + Next steps



The region has changed significantly since January 31st 2020

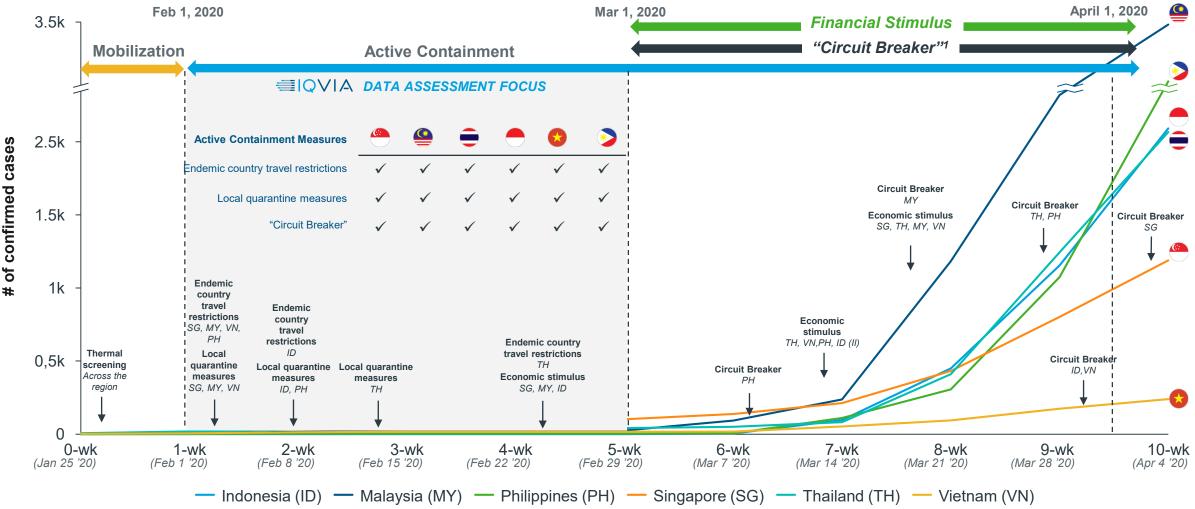
Back-drop

- >320 Mn¹ people (~50% of population) in SEA are practicing physical distancing measures
- Singapore's GDP has contracted by 2.2% in 2020 Q1
- International Monetary Fund (IMF) has revised projected 2020 GDP growth for ASEAN-5 (Indonesia, Malaysia, Philippines, Thailand and Vietnam) from +4.8% to -0.6%
- >15 Mn² people have lost their jobs as a result of business halting
- >US\$140 Bn has been set aside by governments in SEA to limit the economic impact from the pandemic on their country



February saw active containment measures in SEA, and this is the focus of IQVIA's data assessment

Current COVID-19 status in SEA: timeline



Note: 1) Local quarantine measures such 14-day stay at home notices 2) "Circuit breakers" are defined as elevated set of safe measures to pre-empt the trend of increasing local transmissions to reduce interactions in public and private spaces Source: Johns Hopkins University Center for Systems Science and Engineering (JHU CCSE), Various Ministry of Health information updates, IQVIA analysis

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In SEA, post-launch points of impact for healthcare systems and the life sciences industry are emerging as 6 key macro trends

Context

GLOBAL POST-LAUNCH COVID-19 POINTS OF IMPACT

Medicines demand and supply issues



Fluctuating demand for health products



Unpredictability in the supply chain

Engagement with healthcare professionals



Decline of healthcare services utilization



Changing ways-of-working within the industry

Future healthcare system and pharmaceutical industry environment



Falling private investment



Reactive equity market

COVID-19 has had far-reaching effects on national health systems and healthcare services. More significantly, well established socio-political and economic ways of working have been disrupted in the name of public health and safety. We find ourselves in a new era.





Table of Contents

- + Current COVID-19 status in SEA
- + Impact on healthcare
 - 1. Fluctuating demand for health products
 - 2. Decline of healthcare services utilization
 - 3. Unpredictability in the supply chain
- + Impact on life sciences investments
 - 4. Falling private investment
 - 5. Reactive equity market
- + 6. Changing ways-of-working
- + Next steps

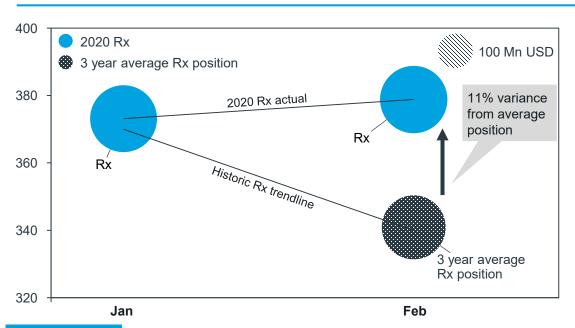


In February 2020, drugs and consumer health products procurement saw a greater than expected increase

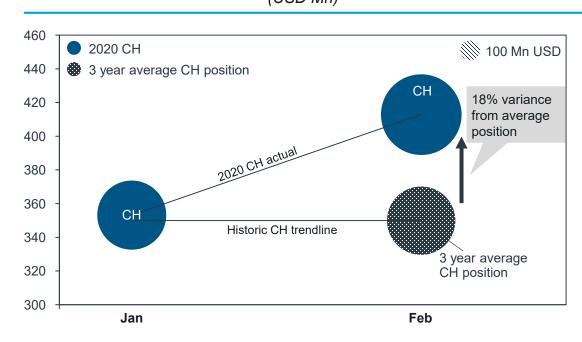
Drugs delivered to Points-of-Care (Sell-in)

Change in Monthly Purchases (Rx)

(USD Mn)



Change in Monthly Purchases (CH) (USD Mn)



Observations

- Based on historical average, a decrease of ~9% in purchases from Jan'20 to Feb'20 was expected
- However, purchases instead increased with a variance of 11% from expected sales

- Based on historical average, a decrease of ~1% in purchases from Jan'20 to Feb'20 was expected
- However, purchases increased with a variance of 18% from its expected sales, highlighting a larger impact on CH products

Note: 1) Consumer Health (CH) is defined as products which do not require a prescription and were never considered as Rx drugs. Can also be known as Over the Counter (OTC). Source: National Sales Audits, IQVIA analysis

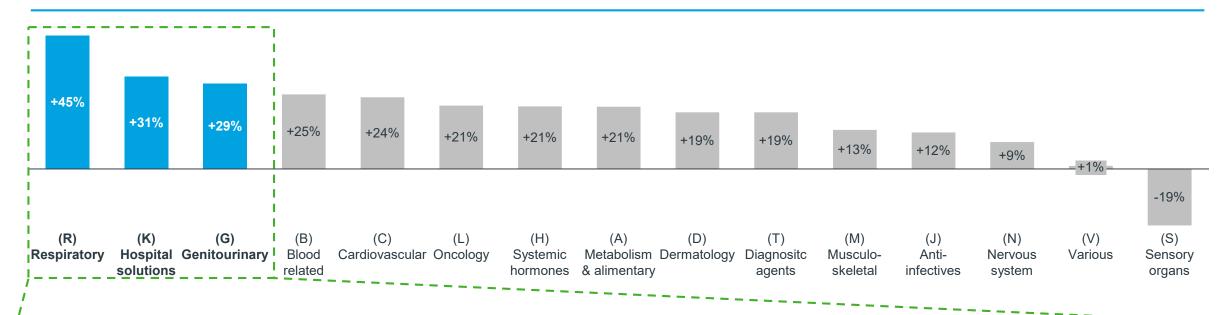
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For prescription drugs, >70% of the increase came from respiratory, hospital and genitourinary products

Rx drugs

Change in Monthly Purchases (Feb '19 vs Feb '20) (ATC 1 prescription drug)



Observations

R		K ²		G	
Anticholinergic w/ B2 agonists	+81%	Fat emulsions	+125%	Oestrogens	+49%
Antileukotriene	+74%	Protein solutions	+100%	Gonadotrophins	+38%
Anticholinergic	+37%	Dialysis solutions	+99%	Labour inhibitors	+26%

- Respiratory experienced the highest growth in sell-in, growing by 45% YoY in Feb, followed by Hospital solutions and Genitourinary classes
- Within the Respiratory class, the main contributors within them were anti-asthmatics (anticholinergic, antileukotriene, anticholinergic w/ B2 agonists)

Note: 1) Based on top 3 ATC 4 within top 3 growing ATC 1; 2) Hospital solutions include intravenous solutions, injection solutions/infusion additives, irrigating solutions, dialysis solutions and perfusion solutions.

Source: National Sales Audits, IQVIA analysis

3 Products

Top

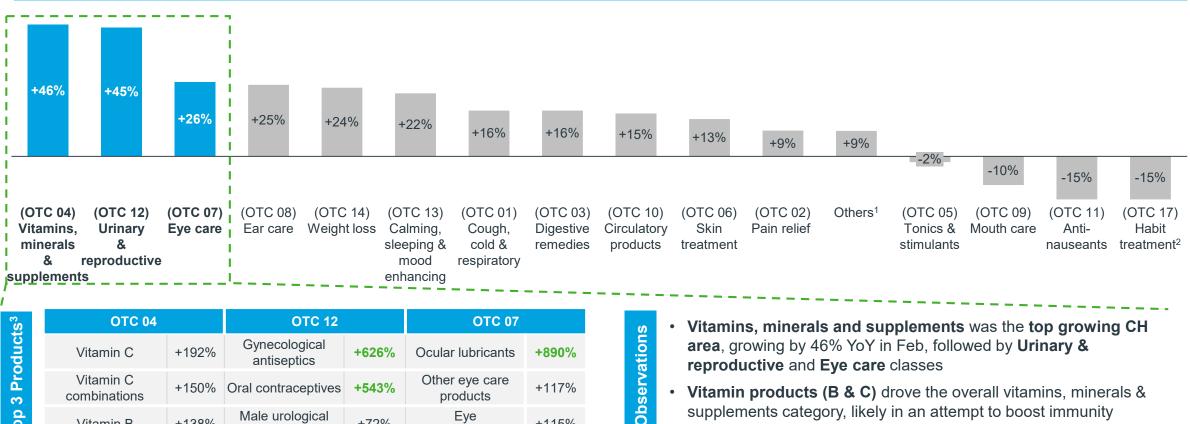
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In Consumer Health, ~60% of the increase was driven by vitamins, urinary and reproductive health, and eye care

Consumer Health

Change in Monthly Purchases (Feb '19 vs Feb '20) (Consumer Health)



OTC 04		OTC 12		OTC 07	
Vitamin C	+192%	Gynecological antiseptics	+626%	Ocular lubricants	+890%
Vitamin C combinations	+150%	Oral contraceptives	+543%	Other eye care products	+117%
Vitamin B	+138%	Male urological products	+72%	Eye anti-allergics	+115%

- Vitamins, minerals and supplements was the top growing CH area, growing by 46% YoY in Feb, followed by Urinary & reproductive and Eye care classes
- Vitamin products (B & C) drove the overall vitamins, minerals & supplements category, likely in an attempt to boost immunity

Note: 1) Includes homeopathic and non-classifiable products 2) Habit treatment include products like anti-nail biting and anti-smoking and others used for treatment of habits 3) Based on top 3 products within top 3 growing OTC 1

Source: National Sales Audits, IQVIA analysis

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Top

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Products for acute conditions saw the largest change, across Consumer Health and prescription drugs

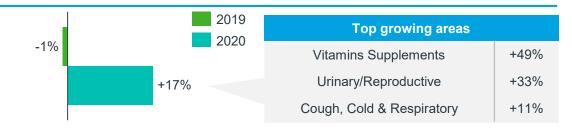
Acute vs Chronic

Change in Jan-Feb CH¹ sell-in (Chronic conditions)



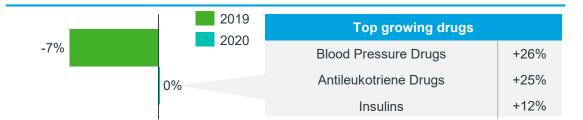
 CH sell-in for chronic conditions was expected to decrease from Jan to Feb but an increase of 10% was observed, mainly driven by growth in sell-in for vitamins and tonics

Change in Jan-Feb CH¹ sell-in (Acute conditions)



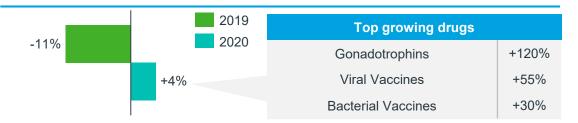
 CH sell-in for acute conditions was expected to remain stable from Jan to Feb but an increase of 17% was observed, mainly driven by growth in sell-in for vitamins and tonics

Change in Jan-Feb Rx² sell-in (Chronic conditions)



 Rx sell-in for chronic conditions was expected to decrease from Jan to Feb but no change was observed, mainly driven by growth in sell-in for blood pressure drugs

Change in Jan-Feb Rx² sell-in (Acute conditions)



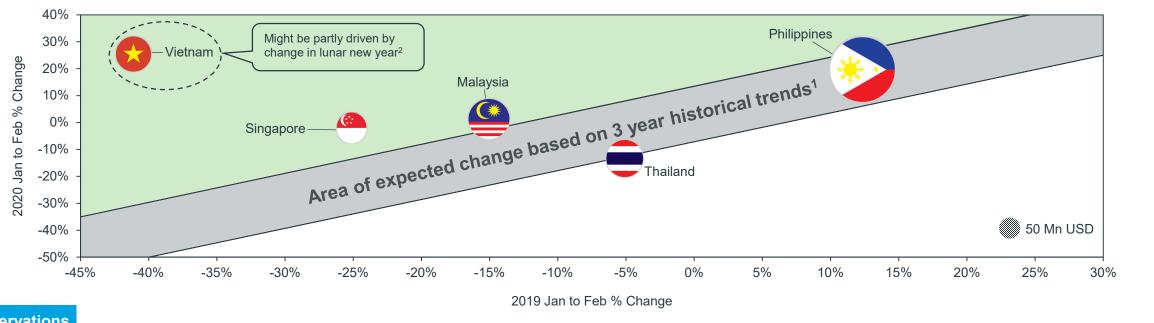
 Rx sell-in for acute conditions was expected to decrease from Jan to Feb, but an increase of 4% was observed, mainly driven by growth in sell-in for gonadotrophins



Singapore and Vietnam contributed more than other markets to the health product demand changes seen in February

Countries

Change in Monthly Procurement of Health Products (Rx and CH) 2019 - 2020 (Sell-in, USD Mn)



Observations

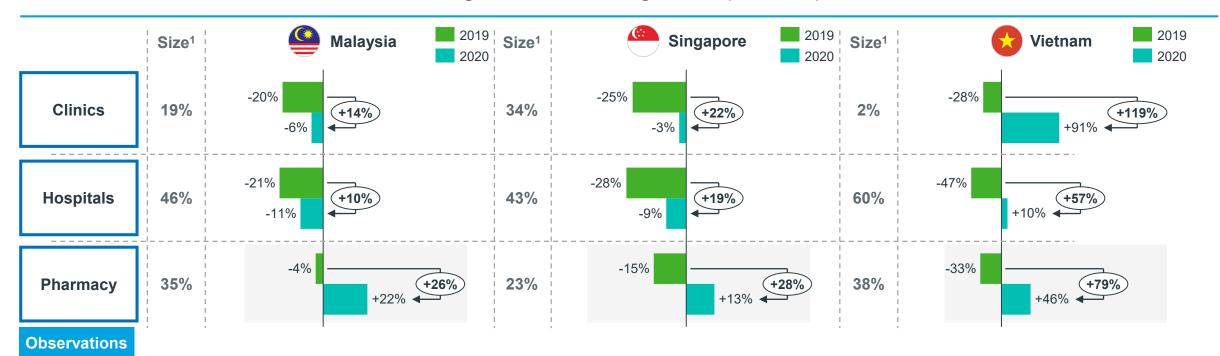
- ¹Based on historical trends, SEA countries typically experience a variance of 10% based on their YoY changes from Jan to Feb
- ²Spike in purchases in Vietnam could partly be driven by the Vietnamese Lunar New Year, in January 2020 this year vs February 2019
- Singapore was mainly driven by increased purchases due to the early outbreak of the first patient cohort



Pharmacies procured more than other points-of-care providers

Fluctuating demand for health products: channels

Change in Jan to Feb drugs sell-in (Channels)



"Pharmacies expect huge growth in sales as people rush to purchase health supplements during this period"

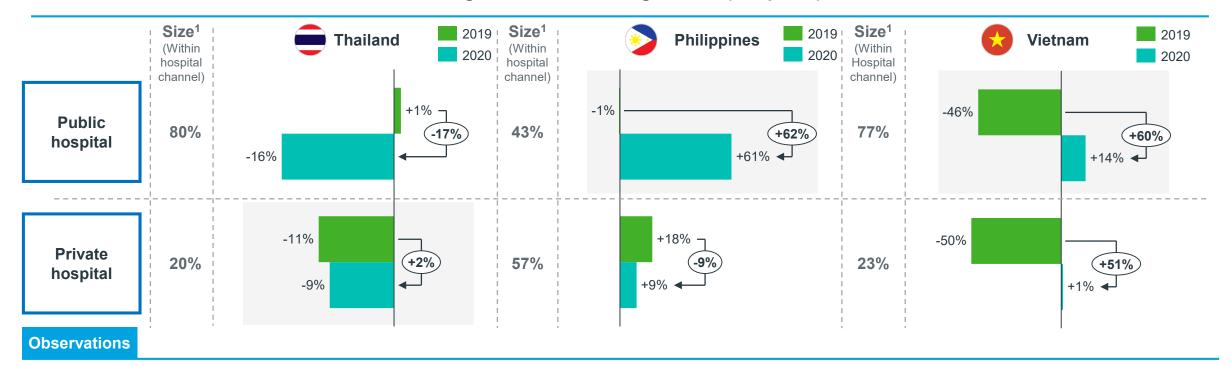
"As more people buy drugs to improve their immune system, pharmacies can expect to see increase in sales" "Pharmacies may see increase in medicine sales as patients are avoiding hospitals"



Public hospitals appear to have stocked up, most likely in anticipation of higher patient flow

Fluctuating demand for health products: hospital channels

Change in Jan to Feb drugs sell-in (Hospitals)



"Government hospital will have less patient flow as they limit number of patients to reduce congestion in hospitals" "Government hospital is **experiencing a high increase in patient traffic** during this virus outbreak"

"Drugs sales may increase as government allows 2 months of medication, compared to 1 month previously"







Table of Contents

- + Current COVID-19 status in SEA
- + Impact on healthcare
 - 1. Fluctuating demand for health products
 - 2. Decline of healthcare services utilization
 - 3. Unpredictability in the supply chain
- + Impact on life sciences investments
 - 4. Falling private investment
 - 5. Reactive equity market
- + 6. Changing ways-of-working
- + Next steps



Of HCPs surveyed, 50% expect up to 6 months before normal patient loads resume from the current decrease in patient visits

Patient flow

Decrease in patient visits (Out-Patient)



 2 out of 3 hospital doctors are experiencing >60% decrease in patient visits

"Patients are avoiding hospitals and are only coming in if they have severe symptoms"

- Doctor Thailand Hospital **Extended period of time before** patient load resumes to normal



 ~50% of doctors think that it will take 4 to 6 months to resume normal operations

"Countries have different levels of screening, hence imported cases still remain a problem"

> - Oncologist Malaysia Hospital

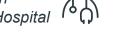
Increase in prescription duration



 ~25% of doctors have 2x their standard prescription duration to reduce patient visits

"Although patient volumes are down, we will prescribe medication for a longer period"

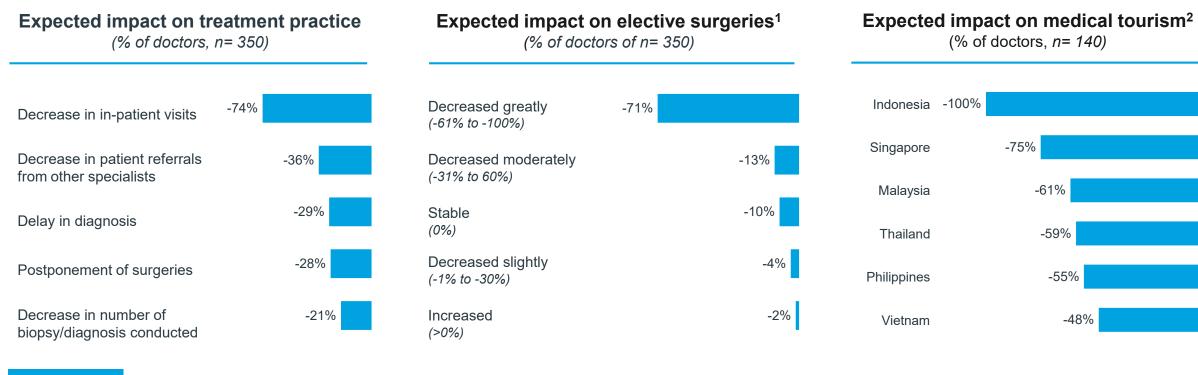
- Physician Vietnam Hospital



IOVIA

In-patient numbers have also seen a decline with significant impact expected on medical tourism

Falling demand for care: HCP practice



Observations

 In order to reduce the risk of getting infected, patients are reducing their visits to the HCPs

- To utilize medical resources for COVID-19 treatment and reduce risk of infecting, most elective surgeries have been postponed
- Travel restrictions have led to decrease in medical tourism for HCPs in SEA and most HCPs expect low level of medical tourism post-lockdown





Table of Contents

- + Current COVID-19 status in SEA
- + Impact on healthcare
 - 1. Fluctuating demand for health products
 - 2. Decline of healthcare services utilization
 - 3. Unpredictability in the supply chain
- + Impact on life sciences investments
 - 4. Falling private investment
 - 5. Reactive equity market
- + 6. Changing ways-of-working
- + Next steps



Distributors surveyed reported shifts in supply chain management for some essential drugs

Disruption in supply: pharmaceutical companies

Increased imports of essential drugs

Distributors surveyed reported expedited acquisition of essential drugs, through import routes

"Countries are importing essential medicines and providing it to hospitals including anti-viral drugs and equipment. Hydroxychloroquine ran out of stock quickly once announced as a potential COVID treatment"



Managed hospital crisis demand

Distributors surveyed experienced **20%** temporary crisis response rationing of essential medicines

"We limit the number of ordering for each hospital so that we can distribute to all hospitals. We can't let any hospital stock up more than normal"



Pharma companies looking at longer term supply sustenance

Pharma companies are working to **60%** have adequate supply of APIs¹ and finished products

"There is more focus on supply chains, ensuring several months of finished goods, and one year of API supply; manufacturing capacity shifts to products at supply risk"



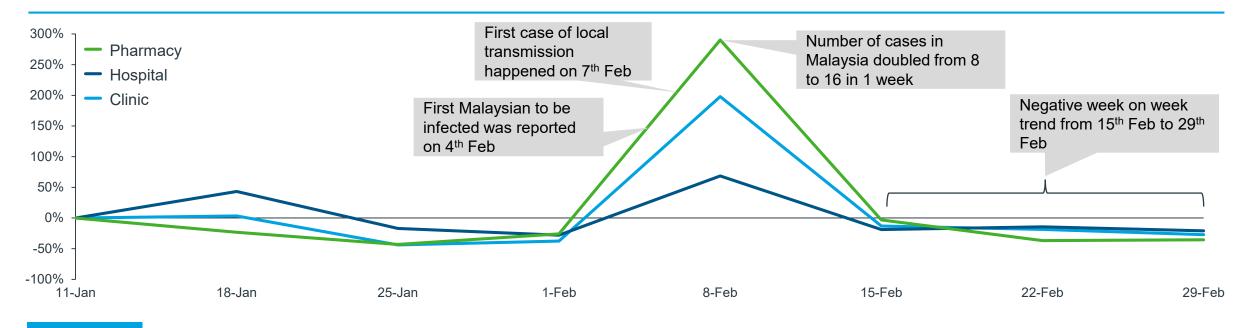




Drug procurement was concentrated to a week across some markets, and event linked actions can be expected in the future

Disruption in supply: channel purchases in Malaysia

Change in Malaysia weekly channel purchases (Week-on-week change)



Observations

- All 3 channels experienced a spike in sell-in from the previous week on the week ending 8th Feb
- Pharmacies stocked up about 6 times the average weekly sell-in value of chronic medications such as hypertension and high-cholesterol drugs in preparation of an increased prescription duration and supply concerns
- Negative weekly change is expected to last for longer period before an increase in channel purchases can be observed

 Note: Baseline started on 11th Jan 2020



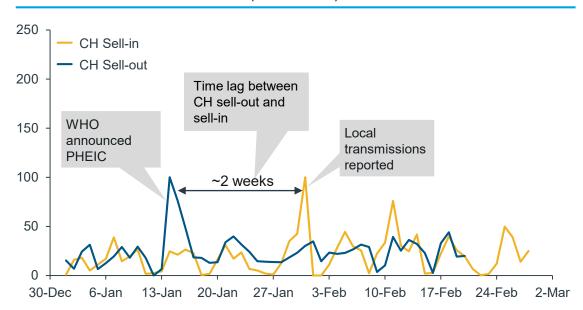


Off-take/purchases seems to have led procurement of CH products, but more data is needed to derive a trend

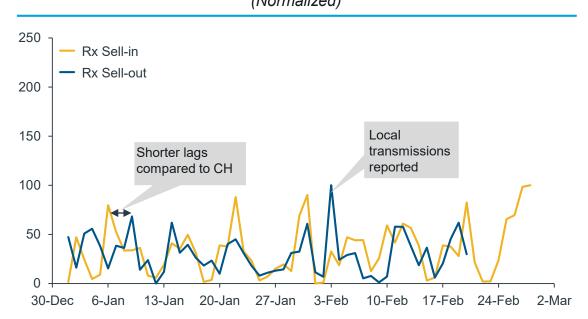
Disruption in supply: sell-in vs. sell-out in Singapore

Pharmacy sell-in vs sell-out Singapore (CH)

(Normalized)



Pharmacy sell-in vs sell-out Singapore (Rx) (Normalized)



Observations

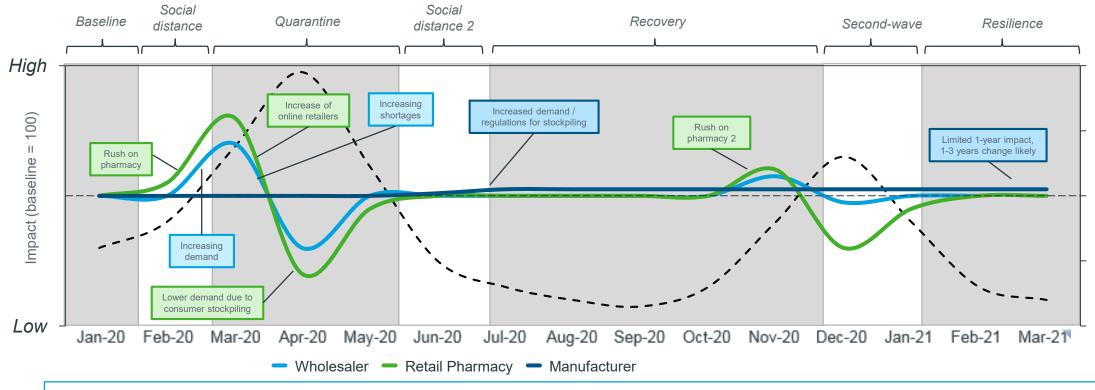
- Daily CH sell-out peaked on 14th Jan for while sell-in for peaked on 31st Jan 2020 showing a ~2 week time lag
- CH sell-in behavior is demand led, with sell-in picking up after periods of high sell out
- Rx sell-out have a **shorter time lags** with Rx sell-in
- Rx sell-in is supply led, correlating to epidemiology trends with peaks in sell-in seen before sell-out





Overall, the impact on major supply chain stakeholders is variable

Retail dynamics 2020 - 2021



"Manage the Crisis"

- Re-align resources to deliver immediate demands
- Manage demand of COVID-19 related treatments
- Respond to extended prescriptions and upsurge in consumer market purchasing
- Engage customers through non f2f channels

"Solve the near-term"

- Understand demand levels following Q1 Rx behaviour and disease progress and manage stock
- Assess parallel trade with export bans
- Manage the implications of delayed and future launches especially where supply chain service provision forms part of the proposition

"Adapt to new realities"

- Determine optimal location for API sourcing/production
- Assess opportunities for adopting new/existing models (mail order/ homecare, reduced deliveries, virtual trials etc.)
- Manage potential economic downturn triggered by COVID-19





Table of Contents

- + Current COVID-19 status in SEA
- + Impact on healthcare
 - 1. Fluctuating demand for health products
 - 2. Decline of healthcare services utilization
 - 3. Unpredictability in the supply chain
- + Impact on life sciences investments
 - 4. Falling private investment
 - **5.** Reactive equity market
- + 6. Changing ways-of-working
- + Next steps



Equity markets rewarded companies in medical supplies and technologies in light of additional government funding

Responding capital market: healthcare sector vs. others

YTD return for each sector across SEA region¹

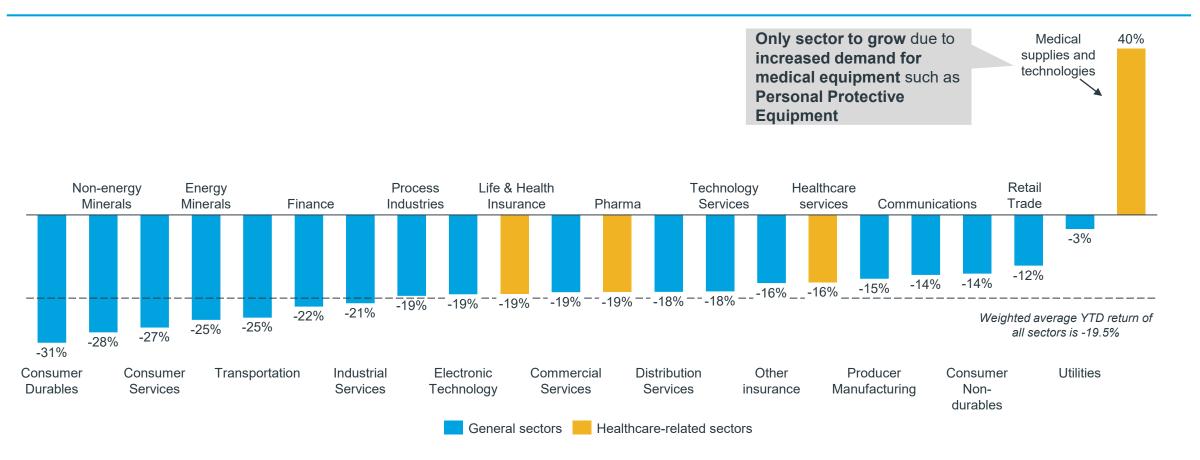






Table of Contents

- + Current COVID-19 status in SEA
- + Impact on healthcare
 - 1. Fluctuating demand for health products
 - 2. Decline of healthcare services utilization
 - 3. Unpredictability in the supply chain
- + Impact on life science investments
 - 4. Falling private investment
 - 5. Reactive equity market
- + 6. Changing ways-of-working
- + Next steps



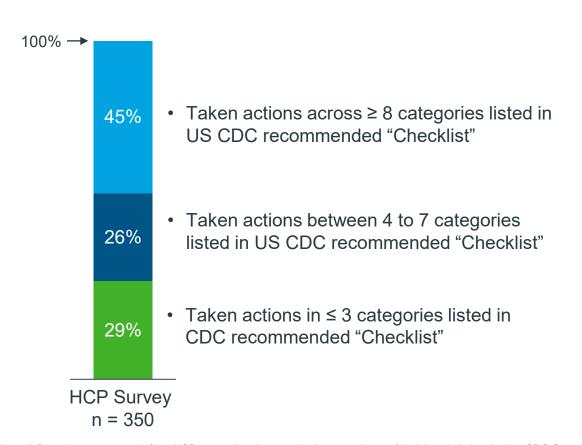
Hospitals seem to be preparing for the disease in different ways

Level of perceived preparedness of hospital

Perceived level of preparedness¹ of Hospitals across SEA

(% of HCPs, n = 350)

taken



¹Preparedness defined as per Comprehensive Hospital Preparedness Checklist for Coronavirus Disease 2019 (COVID-19)

Comprehensive Hospital Preparedness Checklist for Coronavirus Disease 2019 (COVID-19) Planning for a community outbreak of Coronavinus Disease 2019 (COVID-19) is critical for maintaining healthcare services during a response. The Centers for Disease Control and Prevention (CDC), with input from partners, has developed a checklist to help hospitals (acute care facilities) assess and improve their preparedness for responding to a community-wide outbreak of COVID-19. Because of variability of outbreaks, as well as differences among hospitals (e.g., characteristics of the patient population, size of the hospital/community, scope of services), each hospital will need to adapt this checklist to meet its unique needs and circumstances. This checklist should be used as one of several tools for evaluating current plans or in developing a compreh COVID-19 preparedness plan. Additional information can be found at www.cdc.gov/coro departments, emergency management agencies/authorities, hospital associations, and suppliers of resources. In addition ggy/flu/pandemic-resources/pdf/pan-flu-report-2017v2.pdf). Hospitals will also need to ensure their plans comply with applicable state and federal regulations and with standards set by accreditation organizations, such as the Joint Comm on Accreditation of Healthcare Organizations (JCAHO). Comprehensive COVID-19 planning can also help facilities plan for other All U.S. hospitals should be prepared for the possible arrival of patients with COVID-19. All hospitals should ensure their staff are trained, equipped and capable of practices needed to: (1) Prevent the spread of COVID-19 within the facility; (2) Promptly identify and isolate patients with possible COVID-19 and inform the correct facility staff and public health authorities; (3) Care for a limited number of patients with confirmed or suspected COVID-19 as part of routine operations; (4) Potentially care for a larger number of patients in the context of an escalating outbreak while maintaining adequate care for other patients; (5) Monitor and manage any healthcare personnel that might be exposed to COVID-19; and (6) Communicate effectively within the facility and plan for appropriate external communication related to COVID-19. Interim Infection Prevention and Control Recommendations for Patients with Confirmed Coronavirus Disease 2019 (COVID-19) or Persons Under Investigation for COVID-19 in Healthcare Settings: https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recomm Strategies to Prevent the Spread of COVID-19 in Long-Term Care Facilities (LTCF) and a nursing home checklist can be found



Technology adoption in healthcare is being accelerated, though with mixed results

Changing way-of-working: business operations



Doctors in Indonesia are diagnosing and treating patients remotely, using online healthcare systems¹



Malaysia's Health Ministry is providing free delivery for medicines by post for follow up patients²



Doctors seeing 50+ social media (WhatsApp, FB, WeChat, etc.) based contacts per day from medical representatives³



Daily online free consultation increased to 2X

More than 500,000 free coronavirus

consultations till now

Ensure continued adherence to treatment while practicing social distancing and to help ease the burden of patients who required follow-up medication

HCP engagement needs to be managed to ensure they are supported in treating and caring for behaviour rather than experiencing information overload

IQVIA will continue to monitor the impact of COVID-19 in Southeast Asia as the situation continues to evolve...

Looking ahead



- Will sell-out trend experience spikes in uptake as shown in the sell-in trend?
- How will pharma companies cope with a possible shortage of API¹?
- Will sell-in for acute conditions continue to increase more than sellin for chronic conditions?



- How will government continue to increase hospital capacity as COVID-19 cases rise
- How will HCPs ensure overall health outcomes for non-COVID patients do not decline?
- How will private and public healthcare sectors collaborate to ensure adequate healthcare access?



- How will investors change their investment strategies as COVID-19 pandemic continues?
- How will investors respond to safeguard their existing portfolio and ensure sufficient liquidity?



- Will more doctors move to video consultation and e-prescription to continue to monitor and treat their patient caseload?
- Will online pharmacies continue to grow and outperform offline pharmacies?
- Will shift to online HCP engagement impact successful detailing compared to F2F interactions?

We will be providing an update on these topics in our next whitepaper coming soon...





For additional questions, service, or support please contact us

asia@iqvia.com









Appendix

IQVIA National Audit Data used and methodology

National Audit Data: The overview of sell-in and sell-out data in local countries. Data is organized using tags such as 'Product' (Sales by volume and value) or 'Channel' (details of distribution e.g. hospital, clinic, pharmacy)

- Prescription products are classified using ATC classification.
- Consumer health products cover products from Over the Counter drugs, Personal Care, Patient Care and Nutrition categories

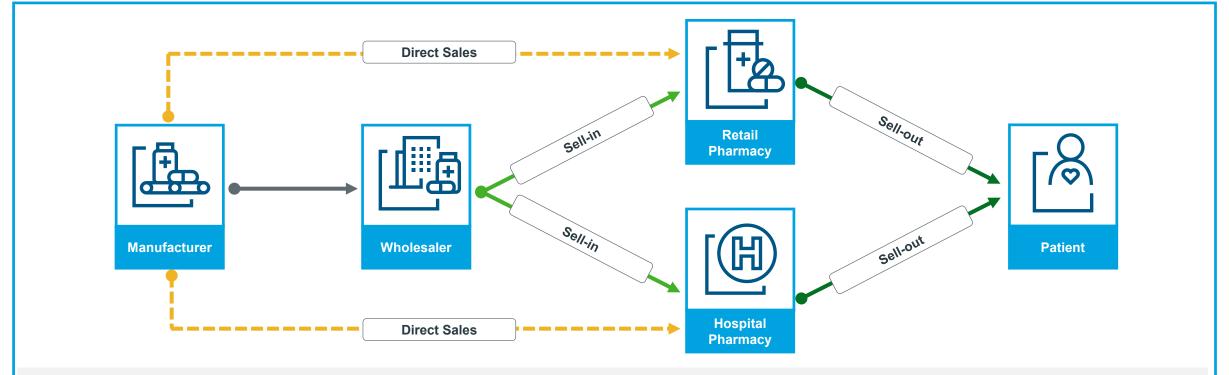
Geographic scope of the data used in this report: Singapore, Malaysia, Thailand, Indonesia, Vietnam, Philippines for both Rx and CH products

Definition	Frequency	Data source description	Measures used for analysis
Sell-in	Monthly	Details on sales of products by manufacturers, distributors of prescription drug (Rx) and Consumer Health (CH).	Value (USD)
Sell-out	Monthly	Details on sales of products dispensed at retail and hospital pharmacies. This includes both prescription and non-prescription products.	value (USD)
Healthcare providers survey	Ad-hoc	Qualitative and quantitative market research of 350 healthcare providers, from both public and private sectors	-



Definitions of sell-in and sell-out data

Sell-in vs. sell-out



- IQVIA data provides insight into the supply of products across countries
- Data collection methods and results vary by country as audit data collection and production are entirely local processes, subject to local market conditions and data availability
- Volumes of packs delivered through channels are collated and total raw numbers of units are determined; projection (if required) is then applied to ensure that the final number represents 100% of the audited channel
- Depending on the audit data collection point and channel measured, the data relates to either 'sell-in' or 'sell-out'

SEA countries have planned ahead to overcome the expected market slowdown with various stimulus packages across sectors

Impact on public health initiatives

	Stimulus packages across SEA Region				
	Stimulus I	Stimulus II	Stimulus III	Key highlights of the stimulus package	
	\$561 Mn (Feb 18)	\$33.2 Bn (Mar 26)	\$5.1 Bn (Apr 7)	 Increase spending in infrastructure and support food, aviation and tourism sector Need for more support for the medical workers such as increasing allowance 	
	\$4.6 Bn (Feb 27)	\$58 Bn (Mar 27)		Dedicated funds for healthcare to buy new equipment's and recruit more medical staff	
	\$12 Bn (Mar 12)	\$15 Bn (Mar 30)		 Tax benefits, lower interests rates and financial support to SME's Need for spending on healthcare infrastructure and provide cheaper and more convenient test kits 	
	\$725 Mn (Feb 24)	\$8 Bn (Mar 13)	\$1.8 Bn (Mar 18)	 Fiscal and non-fiscal incentives for manufacturing, import/export and supply chain sector 3rd stimulus will be prioritized for healthcare industry, to ensure sufficient hospital needs and medical devices 	
*	\$1.6 Bn (Mar 4)			 Increased spending on infrastructure and financial benefits including tax breaks/easy loans Need for more investment in more efficient diagnostics kits in Vietnam 	
>	\$3.9 Bn (Mar 30)			Funds for purchase of testing kits, medical devices, protective gears and other healthcare needs	



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